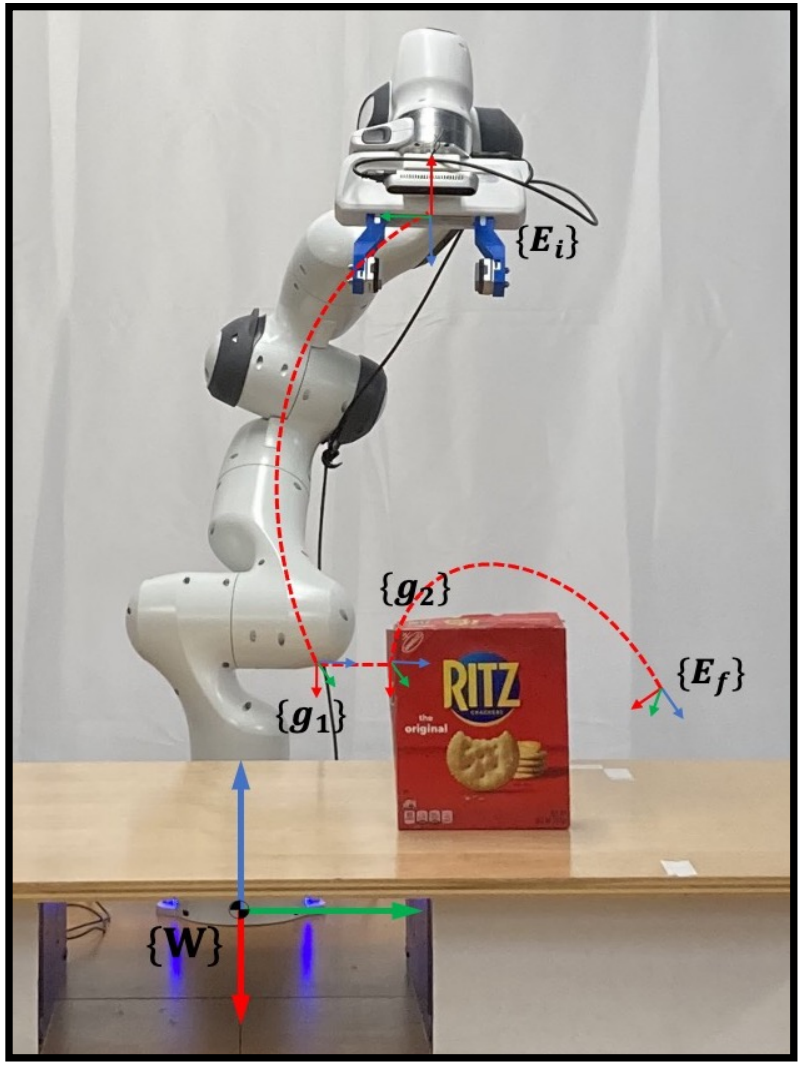
Pivoting using Task-Oriented Grasping

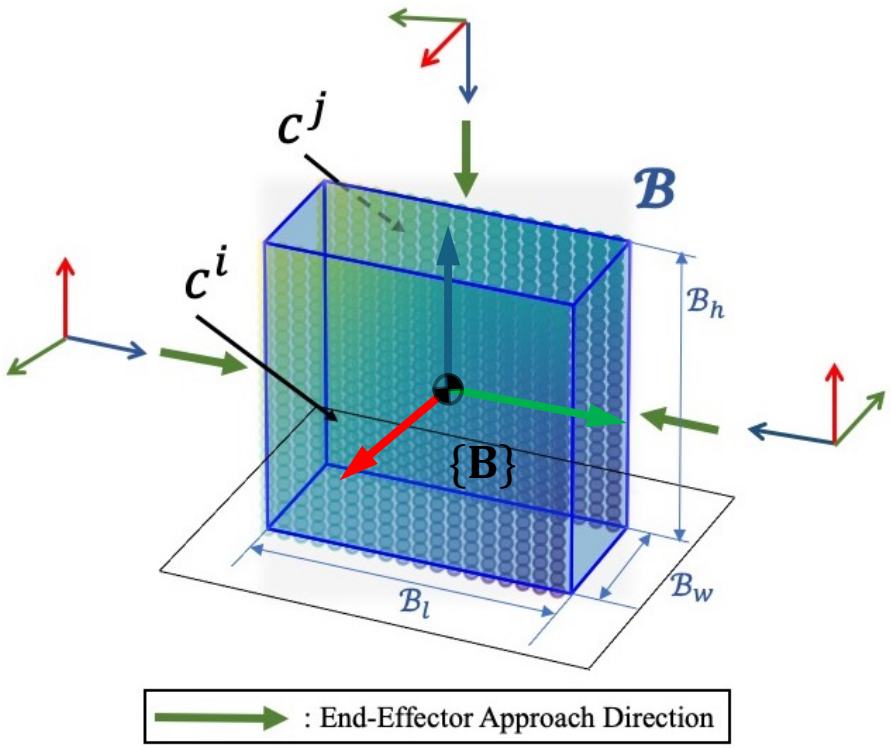
Note: Corresponding variable names used in the code are shown in **blue**



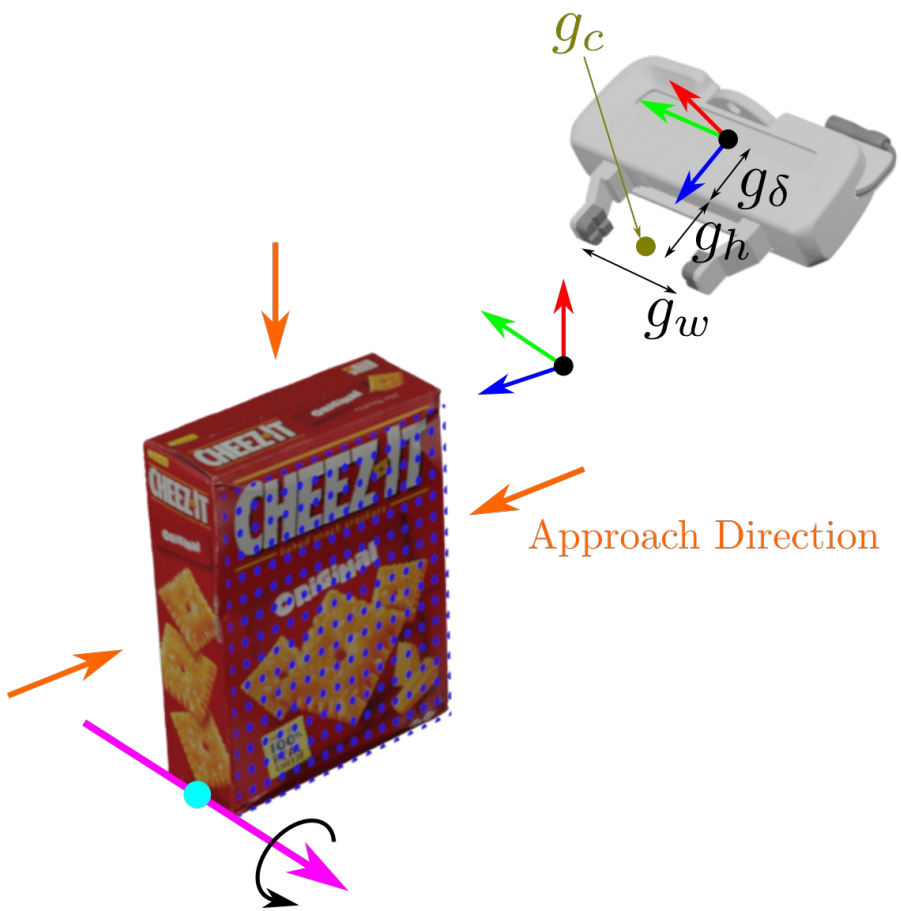
- Since we do not check for collisions of the robot with the object, for our motion planning experiments we compute an intermediate/pre-grasp pose.
- We interpolate from the initial pose to this intermediate pose and then the grasp pose.

$\{g_1\}$: **gripper_pose_inter_base**

$\{g_2\}$: **gripper_pose_base**



- In the current implementation the orientation of the end-effector pose is fixed (based on the approach direction) with respect to reference frame of the bounding box .
- Predefined tolerances are used to compute the position of the grasp pose and the intermediate/pre-grasp pose.



For grasp pose:

g_h : **gripper_height_tolerance**

g_δ : **g_delta**

Distance from the grasp center g_c :

gripper_height_tolerance + g_delta

For intermediate pose:

g_h : **gripper_height_tolerance**

g_δ : **g_delta_inter**

Distance from the grasp center g_c :

gripper_height_tolerance + g_delta_inter